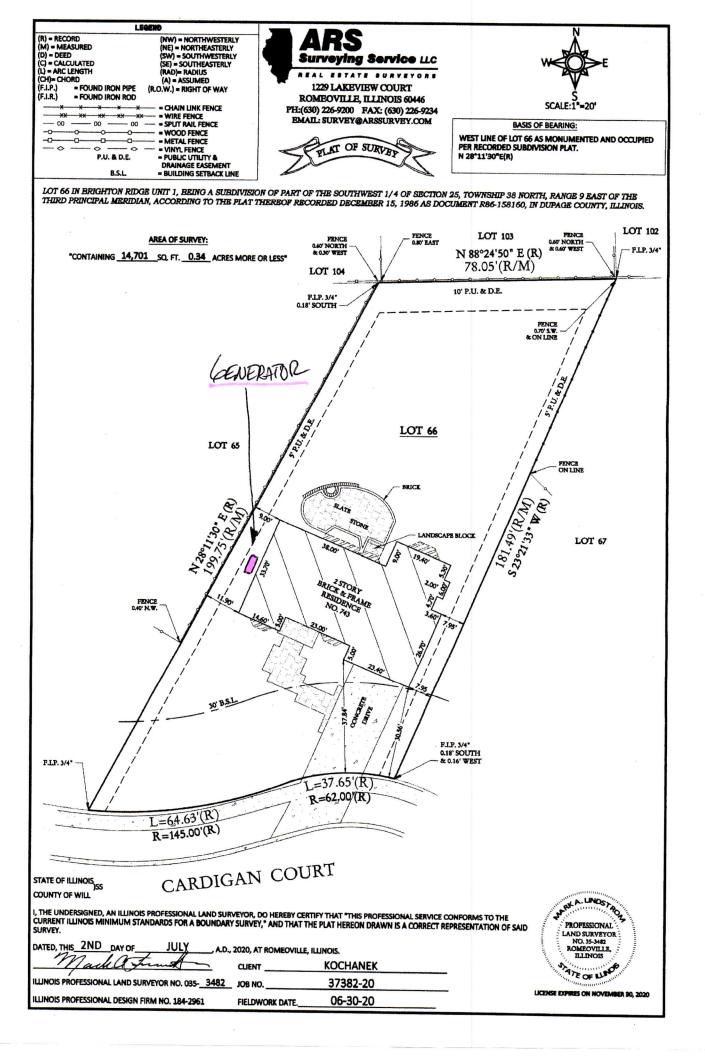


### CITY OF NAPERVILLE

Transportation, Engineering, & Development (T.E.D.) Business Group

Date: 06-30-2020	APPLICATION FOR	ELECTRIC PERMIT Perm	it #:
JOB LOCATION: 743	Cardigan Court		
In accordance with the provi the undersigned owner of pro-	sions of the Municipal Code of operty (or licensed electrical con	the City of Naperville, Illino ntractor representing the ow	ois, effective as of this date, ner(s)) located at:
NAME OF OWNER: Gai	y Kochanek	The harmonic control of the control	
ADDRESS: 743 Cardiga	nn Ct. Naperville IL		ZIP 60565
TELEPHONE: (630	355-6165		
fixed by the Department of P agree to conform to and abide	payment to the Director of Fina ublic Utilities - Electric (DPU- e by all rules, regulations, and p nance of electrical wiring, fixtur	E) of said City of Naperville rovisions of the Municipal (	e, and that the applicant(s)
ELECTRIC CONTRACTO	PR:		
Name of Firm: Lee Leg	eler Construction and Electric		
\ddress: ISI Wolf S	st#A Yorkville IL 60	)560 Felephone: 630	5468476
Vaperville License/Registration	on #		
	F THE ELECTRICAL INST		
	stall Generac Back Up Generate		and doldars,
EASON FOR SERVICE C	HANGE:		
	9147.35		
ONTACT PERSON: Le	e Legler	PHONE: 630-63	6-0128
AX: 630-553-8680	s Y <sub>2</sub>	,	,
gnature of Owner:		Sanc	Lochson
guature of Applicant: (if co.	ntractor)		1

\*\*\*\*\*\*See Reverse\*\*\*\*





# **GENERAC**

# **GUARDIAN® SERIES**

Residential Standby Generators
Air-Cooled Gas Engine

### **INCLUDES:**

- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/ French/Portuguese)
- Two Transfer Switch Options Available: 100 Amp, 16 Circuit Switch or 200 Amp Service Rated Smart Switch. See Page 5 for Details.
- Electronic Governor
- Standard Wi-Fi™ Remote Monitoring
- System Status & Maintenance Interval LED Indicators
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Direct-To-Dirt Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Listed and Labeled by the Southwest Research Institute allowing installation as close as 18" (457 mm) to a structure.\*
   \*Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.

https://assets.swri.org/library/DirectoryOfListedProducts/ ConstructionIndustry/973\_DoC\_204\_13204-01-01\_Rev9.pdf

### Standby Power Rating

Models G007036-1, G007037-1 (Aluminum - Bisque) - 16 kW 60 Hz Model G007035-1 (Aluminum - Bisque) - 16 kW 60 Hz Models G007039-1, G007038-1 (Aluminum - Bisque) - 20 kW 60 Hz Models G007043-2, G007042-2 (Aluminum - Bisque) - 22 kW 60 Hz

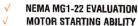




Note: CUL certification only applies to unbundled unils and units packaged with fimiled circuit switches. Units packaged with the Smart Switch are UL certified in the USA only.

### **FEATURES**

- INNOVATIVE ENGINE DESIGN & RIGOROUS TESTING are at the heart of Generac's success in providing the most reliable generators possible. Generac's G-Force engine lineup offers added peace of mind and reliability for when you need it the most. The G-Force series engines are purpose built and designed to handle the rigors of extended run times in high temperatures and extreme operating conditions.
- TRUE POWER™ ELECTRICAL TECHNOLOGY: Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- TEST CRITERIA:
  - ✓ PROTOTYPE TESTED
     ✓ SYSTEM TORSIONAL TESTED



MOBILE LINK\*\* REMOTE MONITORING: FREE with every Guardian Series Home standby generator. Allows you to monitor the status of your generator from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance aferts. Connect your account to your authorized service dealer for fast, triendly and proactive service. With Mobile Link, you are taken care of before the next power outage. SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION:

This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at  $\pm\,1\%$ .

- SINGLE SOURCE SERVICE RESPONSE from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- GENERAC TRANSFER SWITCHES: Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.











# 16/20/22 kW

# GENERAC\* features and benefits

### Engine

Generac G-Force design
 Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings helps the engine run cooler, reducing oil consumption resulting in longer engine life.

"Spiny-lok" cast iron cylinder walls Rigid construction and added durability provide long engine life.

Electronic ignition/spark advance
These features combine to assure smooth, quick starting every time.

Full pressure lubrication system Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine

life. Now featuring up to a 2 year/200 hour oil change interval.

Low oil pressure shutdown system Shutdown protection prevents catastrophic engine damage due to low oil.

High temperature shutdown Prevents damage due to overheating.

### Generator

Revolving field
 Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature

generator

Skewed stator
 Produces a smooth output waveform for compatibility with electronic equipment.

Displaced phase excitation Maximizes motor starting capability.

Automatic voltage regulation Regulates the output voltage to ±1% prevents damaging voltage spikes.

UL 2200 listed For your safety.

### Transfer Switch (if applicable)

Fully automatic
 Transfers your vital electrical loads to the energized source of power.

NEMA 3R Can be installed inside or outside for maximum flexibility.

Remote mounting Mounts near your existing distribution panel for simple, low-cost installation,

### Evolution™ Controls

Auto/Manual/Off illuminated buttons
 Selects the operating mode and provides easy, at-a-glance status indication in any condition.

Two-line LCD multilingual display Provides homeowners easily visible logs of history, maintenance and events up to 50 occurrences.

Sealed, raised buttons
 Smooth, weather-resistant user interface for programming and operations.

Utility voltage sensing
 Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.

Generator voltage sensing
 Constantly monitors generator voltage to ensure the cleanest power delivered to the home.

Utility interrupt delay Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of

five (5) seconds by a qualified dealer.

Engine warm-up Ensures engine is ready to assume the load, setpoint approximately 5 seconds.

Engine cool-down Allows engine to cool prior to shutdown, setpoint approximately 1 minute.

Programmable exercise
 Operates engine to prevent oil seal drying and damage between power outages by running the generator

for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing

flexibility and potentially lower fuel costs to the owner.

Smart battery charger
 Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature.

Compatible with lead acid and AGM-style batteries.

Main line circuit breaker Protects generator from overload.

Electronic governor Maintains constant 60 Hz frequency.

### Unit

SAE weather protective enclosure

Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 150 mph. Hinged key locking root panel for security, Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.

Enclosed critical grade muffler
 Quiet, critical grade muffler is mounted inside the unit to prevent injuries.

Small, compact, attractive
 Makes for an easy, eye appealing installation, as close as 18" (457 mm) away from a building.



# GENERAC

# features and benefits

# 16/20/22 kW

### Installation System

1 ft (305 mm) flexible fuel line connector

Direct-to-dirt composite mounting pad

Integral sediment trap

Absorbs any generator vibration when connected to rigid pipe.

Complex lattice design prevents settling or sinking of the generator system.

Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.

### **Remote Monitoring**

Ability to view generator status

Ability to view generator Exercise/Run and Total Hours

Ability to view generator maintenance information

Monthly report with previous month's activity.

Ability to view generator battery information

Weather information

Monitor your generator via your smartphone, tablet, or computer at any time via the Mobile Link application for complete peace of mind

Review the generator's complete protection profile for exercise hours and total hours

Provides maintenance information for your specific model generator when scheduled maintenance is due

Detailed monthly reports provide historical generator information

Built in battery diagnostics displaying current state of the battery

Provides detailed local ambient weather conditions for generator location

3 of 6

16/20/22 kW

# GENERAC

# specifications

92 (2.53) [9.57]

### Generator Model G007035-1, G007036-1, G007038-1, G007039-1 G007042-2, G007043-2 6007037-1 (16 kW) (20 kW) (22 kW) Rated Maximum Continuous Power Capacity (LP) 16,000 Watts\* 20,000/Watts\* 22,000 Watts\* Rated Maximum Continuous Power Capacity (NG) 16,000 Watts\* 18,000 Watts\* 19,500 Watts \* Rated Voltage 240 240 240 Rated Maximum Continuous Load Current - 240 Volts (LP/NG) 7/66.7 83.3 / 75.0 91.7 / 81.3 **Total Harmonic Distortion** ss than 5% Less than 5% Less than 5% Main Line Circuit Breaker 70 Amp 90 Amp 100 Amp Phase 1 Number of Rotor Poles 2 2 Rated AC Frequency 60 Hz 60 Hz 60Hz Power Factor 1.0 10 1.0 Battery Requirement (not included) Volts, Group 26R 540 CCA Min mum or Group 35AGM 650 CCA Minimum Unit Weight (lb/kg) 9/186 48 / 203 466 / 211 Dimensions (L x W x H) in/mm 48 x 25 x 29 218 x 638 x 732 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load\*\* 67 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode\*\* 57 Exercise duration 5 min min 5 min Engine Type of Engine **GENERAC G-For** e 1000 Series Number of Cylinders Displacement 999 cc 999 999 cc Cylinder Block Aluminum w/ Cast Iron Sleeve Valve Arrangement Overhead Valve Overhead Valve Overhead Valve Ignition System Solid-state w/ Magneto Solid-state w/ Solid-state w/ Magneto Governor System Electronic Electroni Electronic Compression Ratio 9.51 9.5:1 9.5:1 Starter 12 VDC 12 VDC 12 VDC Oil Capacity Including Filter Approx. 1.9 qt/ Approx. 1.9 qt / Approx. 1.9 at / 1.8 L Operating rpm 3,600 3,600 3,600 **Fuel Consumption** Natural Gas ft3/hr (m3/hr) 1/2 Load 218 (6.17) 204 (5.78) 228 (6.46) Full Load 309 (8.75) 301 (8.52) 327 (9.26) Liquid Propane ft3/hr (gal/hr) [l/hr]

142 (3.90) [14.77] 107 (2.94) [11.11] 130 (3.56) [13.48] Note: Fuel pipe must be sized for full load. Required tuel pressure to generator fuel inlet at all load ranges - 3.5-7" water column (7-13 mm mercury) for natural gas, 10-12" water column (19-22 mm mercury) for LP gas. For BTU content, multiply ft3/hr x 2500 (LP) or ft3/hr x 1000 (NG). For Megajoule content, multiply m3/hr x 93.15 (LP) or m3/hr x 37.26 (NG)

74 (2.03) [7.70]

87 (2.37) [8.99]

1/2 Load

**Full Load** 

Controls				
Two-Line Plain Text Multilingual LCD Display	Simple user interface for ease of operation.			
Mode Buttons: Auto	Automatic Start on Utility failure, 7 day exerciser.			
Manual	Start with starter control, unit stays on. If utility fails, transfer to load takes place.			
Off	Stops unit. Power is removed. Control and charger still operate.			
Ready to Run/Maintenance Messages	Standard			
Engine Run Hours Indication	Standard			
Programmable start delay between 2-1500 seconds	Standard (programmable by dealer only)			
Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)	From 140-171 V / 190-216 V			
Future Set Capable Exerciser/Exercise Set Error Warning	Slandard			
Run/Alarm/Maintenance Logs	50 Events Each			
Engine Start Sequence	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).			
Starter Lock-out	Starter cannot re-engage until 5 sec after engine has stopped.			
Smart Battery Charger	Slandard			
Charger Fault/Missing AC Warning	Standard			
Low Battery/Battery Problem Protection and Battery Condition Indication	Standard			
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard			
Under-Frequency/Overload/Slepper Overcurrent Protection	Siandard			
Safety Fused/Fuse Problem Protection	Standard			
Automatic Low Oil Pressure/High Oil Temperature Shutdown	Standard			
Overgrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown	Standard			
High Engine Temperature Shutdown	Standard			
Internal Fault/Incorrect Wiring Protection	Standard			
Common External Fault Capability	Slandard			
Field Upgradable Firmware	Standard			

<sup>&</sup>quot;Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BSS514, ISO3046 and DN6271). "Maximum fallovolt amps and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level; and also will decrease about 1 percent for each 6 °C (10 °F) above 16 °C (60 °F).

16/20/22 kW

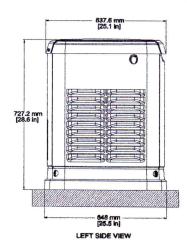
# **GENERAC**

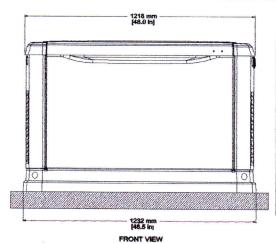
# available accessories

Model #	Product	Description
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.
G005819-0	26R Wet Cell Battery	Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).
G007101-0	Battery Pad Warmer	The pad warmer rests under the battery. Recommended for use if the temperature regularly falls below 0 °F (-18 °C). (Not necessary for use with AGM-style batteries).
G007102-0	Oil Warmer	Oil warmer slips directly over the oil filter. Recommended for use if the temperature regularly falls below 0 °F (-18 °C).
G007103-1	Breather Warmer	The breather warmer is for use in extreme cold weather applications. For use with Evolution controllers only in climates where heavy icing occurs.
G005621-0	Auxiliary Transfer Switch Contact Kit	The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.
G007027-0 - Bisque	Fascia Base Wrap Kit (Standard on 22 kW)	The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.
G005703-0 - Bisque	Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch up a generator enclosure.
G006485-0	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.
G006873-0	Smart Management Module (50 Amps)	Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system.

# dimensions & UPCs

Dimensions shown are approximate. Refer to installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.





Model	UPC
G007035-1	696471074161
G007036-1	696471074154
G007037-1	696471074178
G007038-1	696471074185
G007039-1	696471074192
G007042-2	696471074208
G007043-2	696471074215







GenReady™ Whole House Service Equipment Rated Transfer Switch and Load Centers

# GenReady™ Whole House Features

- Single Phase
- 100 amp, 24 space, expandable to 40 circuit and 200 amp, 42 space, expandable to 60 circuit
- · Multi listed for use with Siemens, Murray, Square D, and Eaton 1" breakers
- · Accepts GFCI, AFCI, and Tandem breakers
- Utilizes standard Generac and Siemens components
- UL listed for service equipment and consumer safety
- · Multiple GenReady panels can be supported with a single generator
- Flush Mount NEMA 1 Steel with electrostatically applied and baked powder paint Indoor Enclosure
- UL67 and UL1008
- 5 Year Limited Warranty
- DPM Technology Digital Power Management
  - Standard 4 individual HVAC (24 VAC)
  - · Optional Smart Management Modules (SMM), up to 8







Medel RTG24SHA1 - 100A NEMA1 with 24 space, 40 circuit Model RTG42SHA1 - 200A NEMA1 with 42 space, 60 circuit

# GenReady™ Whole House Description

The GenReady Whole House is a service equipment rated panel that integrates a main breaker, transfer switch, and load center. This hybrid panel allows for seamless integration of standby generators. It is available in a NEMA 1 configuration for indoor installations with generators that utilize an Evolution or Nexus controller. For installation flexibility, it is multi-listed for use with various breaker manufacturers. Installation can be completed during any new home construction or existing panel upgrades, and does not require the generator installation at the same time.







# GenReady™ Whole House Transfer Switch and Load Center

# **Load Center Product Options**

100A NEMA 1 GenReady™ Whole House Model Number RTG24SHA1

### Includes:

- 100A Transfer Switch
- 24 Space Load Center
- . Expandable to 40 Circuits with tandem breakers
- 100A Main Circuit Breaker



### 200A NEMA 1 GenReady™ Whole House **Model Number RTG42SHA1**

### Includes:

- 200A Transfer Switch
- 42 Space Load Center
- . Expandable to 60 Circuits with tandem breakers
- 200A Main Circuit Breaker



### **Functions**

All timing and sensing functions originate in the generator controller

Utility voltage drop-out	<65%*
limer to generator start	adjustable between 2-1500 seconds by a qualified dealer*
Engine warm up delay	5 seconds
Standby voltage sensor	
Utility voltage pickup	>80%
Re-transfer time delay	15 seconds
Engine cool-down timer	
Exerciser	5 minutes bi-weekly, adjustable to weekly or monthly

The transfer switch can be operated manually without power applied.

# **Specifications**

Model	RTG24SHA1	RTG42SHA1		
Amps	100	200		
Voltage	12 <b>0</b> /240, 1ø/	120/240, 1ø		
Load Transition Type (Automatic)	Open Transition Service Rated	Open Transition Service Rated		
Enclosure Type	NEMA/1	NEMA 1		
UL Rating	UL67 and UL1008	UL67 and UL1008		
Withstand Rating (Amps)	10,000	10,000 22,000*		
Main Lug Range Service	#4 - 3/0 CU/AL 75°C	#1 - 300 MCM CU/AL 75° C		
Weight lb. (kg)	47 (21.3)	64 (29.0)		
Weight shipped lb. (kg)	57.2 (25.9)	75.5 (34.2)		

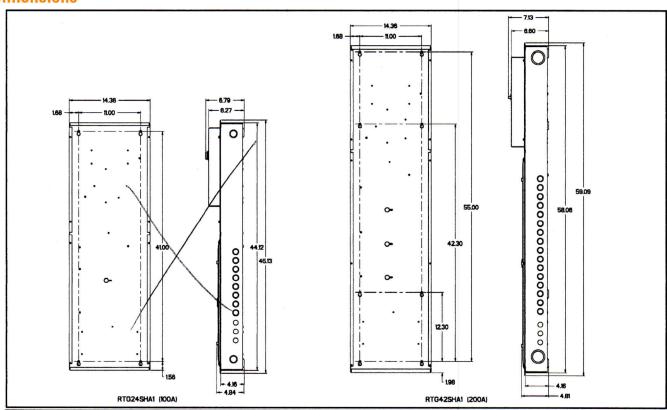
<sup>\*</sup>when used with Siemens or Murray 1" branch circuit breakers.

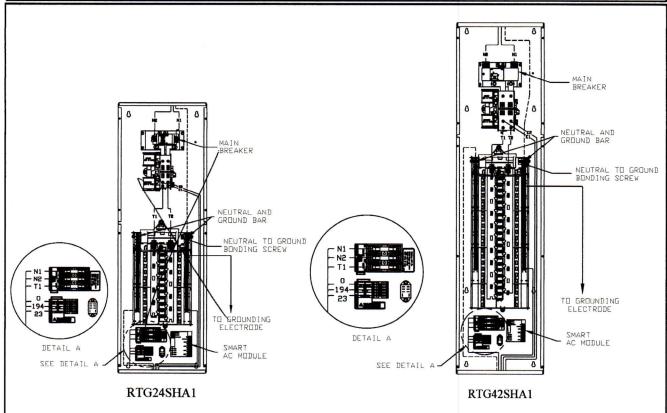
<sup>\*</sup>When used in conjunction with units utilizing Evolution™ controls



# GenReady™ Whole House Transfer Switch and Load Center

### **Dimensions**









Lee Legler Construction + Electric 181 Wolf St Unit A YORKVILLE, IL 60560 (630) 546-8476 generatorinstalls.com

### Sizing Report

Sizing Information for: Gary Kochanek 743 Cardigan Ct Naperville, IL 60565

Rated Nominal Voltage

240

Generator Fuel Choice

Natural Gas

Sizing Method (NEC 220)

Part IV

(Part III required for selected circuit implementation, Both valid for whole house)

General Lighting & Receptacles		Load (kW)
Square Footage Being Covered (ft^2)	3200	9.6
Small Appliance Circuits (20 amps)		
Kitchen Circuits	2	3
Laundry Circuits	1	1.5

Fixed-In-Place Appliances & Motors	Managed Loads	Estimated (kW)	Nameplate (amps)	240 V	Load (MM)
Dryer		5.5	(	X X	Load (kW) 5.5
Microwave		1.3		^	
Oven		5.0		V	1.3
				Х	5.0
Furnace (Forced Air)		0.7			0.7
Furnace (Forced Air)		0.7			0.7
Dishwasher		1.5			1.5
Refrigerator		8.0			0.8
Refrigerator		0.8			0.8
Sump Pump		0.5			0.5
	Managed	Estimated	Nameplate		
Air Conditioning & Cooling	Loads	(kW)	(amps)	240 V	Load (kW)
2.0 Ton Unit	Х	2.0		Χ	0.0
3.0 Ton Unit	X	3.0		X	0.0
Hasting 9 Hast Duran	Managed Loads	Estimated (kW)	Nameplate		
Heating & Heat Pumps	Loaus	(KVV)	(amps)	240 V	Load (kW)
		Estimated	Actual		Utilized
Transient Requirement		(LRA)	(LRA)		(LRA)
Largest Motor's Starting Amps (LRA)		86	79		79